

## A New Variety and a New Combination of *Schoenoplectus mucronatus* (L.) Palla (Cyperaceae) from Japan

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A new variety of *Schoenoplectus mucronatus* (L.) Palla, var. *ishizawae*, is described from Japan. This variety resembles *Sch. mucronatus* var. *tataranus* (Honda) K.Kohno, Iokawa & Daigobo, proposed as a new combination here, in having winged angles of trigonous culm, but clearly differs from var. *tataranus* by the shape of wings and the length of hypogynous bristles. The new variety has been known from only four localities in the Japan Sea side regions of Honshu and Kyushu.

**Key words:** Cyperaceae, new combination, new variety, *Schoenoplectus mucronatus* var. *ishizawae*, *Schoenoplectus mucronatus* var. *tataranus*

*Schoenoplectus mucronatus* (L.) Palla is widely distributed in Eurasia, from Central Europe through Central Asia to Eastern Asia including Japan (Egorova 1976, Koyama 1978). The species is characterized by tufted, trigonous and robust culms with leafless sheaths at the base and pseudolateral inflorescences composed of several sessile spikelets. Ishizawa and Sasagawa (1996) collected an unknown plant resembles *Sch. mucronatus* in Kamikawa-mura, Niigata Prefecture, Japan (Fig. 1A, B). This unknown plant is similar to the typical form of *Sch. mucronatus* in the characteristics of inflorescence, flowers and fruits, but distinctly different from it in having obvious winged angles of trigonous culm (Fig. 1C). As to having obvious winged angles, the unknown plant is related to *Scirpus mucronatus* L. var. *tataranus* Honda. This variety is distinct from the typical form of *Sch. mucronatus* in having the obvious culm wings (Fig. 1D), the longer hypogynous bristles (Fig. 1F) and the allopatric distribution. The distinction be-

tween var. *mucronatus* and var. *tataranus* seems to be always constant as far as we have examined, although Koyama (1958) treated this variety as a form, f. *tataranus* (Honda) T.Koyama. The unknown plant clearly differs from var. *tataranus* by the shape of culm wings and the length of hypogynous bristles. The culm wing of the unknown plant has much wider tip with a shallow groove and obvious ridges on both sides (Fig. 1C), while that of var. *tataranus* has narrower truncate tip (Fig. 1D). The hypogynous bristles of the unknown plant, moreover, are as long as or slightly shorter than fruit (Fig. 1E), while those of var. *tataranus* are apparently longer than fruit (Fig. 1F). We, therefore, regard this plant as a variety of *Sch. mucronatus*, and name it var. *ishizawae* in honor of Dr. Susumu Ishizawa, Professor of Niigata University, who found first this plant and allowed us to study it. In the type locality, var. *ishizawae* grows with *Sch. juncoides* (Roxb.) Palla subsp. *hotarui* (Ohwi) Soják, *Isachne*

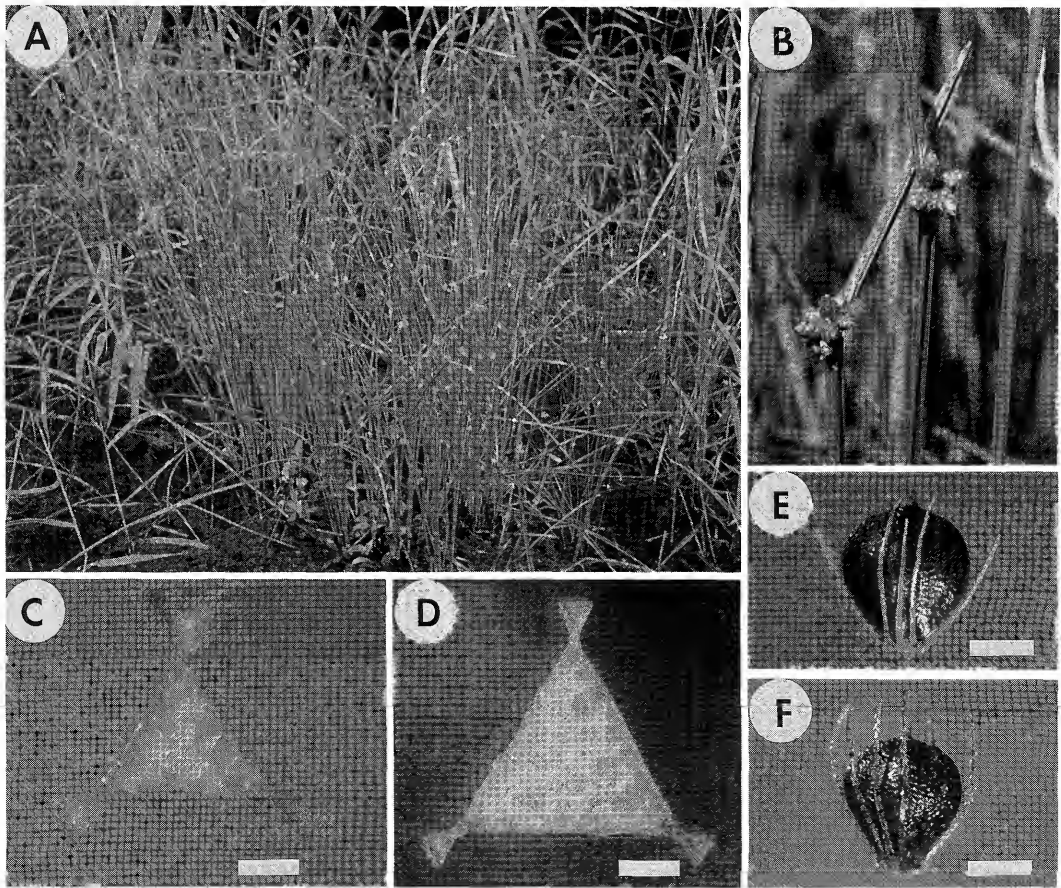


Fig. 1. Habit of *Schoenoplectus mucronatus* var. *ishizawae* in Tachigasawa-numa, Kamikawa-mura, Higashikanbara-gun, Niigata Pref., 18 Sept. 2000 (A, B). Transverse sections of culm (C, D) and fruits with hypogynous bristles (dorsal view: E, F) of two forms of *Sch. mucronatus*, var. *ishizawae* (C, E) and var. *tataranus* (D, F). Scale bars = 1 mm. Vouchers: var. *ishizawae* (K. Kohno 990029), var. *tataranus* (K. Kohno 990021).

*globosa* (Thunb.) Kuntze and *Phragmites australis* (Cav.) Trin. in shallow water at the margin of marshes. From herbarium specimens in KPM, KYO, MAK, TI, TNS and TUS, we have found four localities of var. *ishizawae* in Japan (Fig. 2). These are restricted to the Japan Sea side of Honshu and Kyushu. A new combination, *Schoenoplectus mucronatus* var. *tataranus*, is also proposed here.

***Schoenoplectus mucronatus* (L.) Palla in**

Bot. Jahrb. **10**: 299 (1888).

var. ***ishizawae*** K.Kohno, Iokawa & Daigobo, var. nov.

Culmi triquetri, angulis alatis, alis apice latis sulcatis utrimque projectis. Cetera ut in typo.

**Typus.** Japan, Tachigasawa-numa, Muroya, Kamikawa-mura, Higashikanbara-gun, Niigata Pref., K. Kohno 990029, 19 Sep. 1999 (TUS).

Nom. Jap.: Rokkaku-i (Ishizawa and Sasagawa 1996).



Fig. 2. Distribution of *Schoenoplectus mucronatus* var. *ishizawae* in Japan.

Other specimens examined. Japan, Niigata: Gagyusan, Murakami-shi, T. Uchikawa 7179 (TNS); Muroya, Kamikawa-mura, Higashikanbara-gun, S. Ishizawa 268304, 268306, 268500, 293147 (TUS); *ibid.*, K. Kohno 980076 (TUS). Fukui: Kamisasamata, Ohno-shi, S. Watanabe 39881, 39999 (KPM); *ibid.*, K. Kohno 990050 (TUS). Fukuoka: Koishihara, Koishihara-mura, Asakura-gun, K. Koga 12423 (TUS).

var. **tataranus** (Honda) K.Kohno, Iokawa & Daigobo, comb. nov.

*Scirpus mucronatus* L. var. *tataranus* Honda in Bot. Mag. Tokyo **46**: 373 (1932).

*Scirpus mucronatus* L. f. *tataranus* (Honda) T.Koyama in J. Fac. Sci. Univ. Tokyo, sect. 3, **7**: 317 (1958).

Nom. Jap.: Tatarakangare-i.

Specimens examined. Japan, Miyagi: Sugigafukuro, Natori-shi, K. Kohno 990063 (TUS); Naya, Terashima, Iwanuma-shi, E. Hayasaka 2786 (TUS). Tochigi: Watarase-gawa-yusuichi, Fujioka-machi, Shimotuga-gun, S. Furuse 14430 (KYO); Tomita, Ashikaga-shi,

A. Ozaki 73263 (KPM). Gunma: Tataranuma, Tatebayashi-shi, H. Sekimoto 8 (**TI-holotype**); *ibid.*, T. Wakana 271 (TNS); *ibid.*, Y. Yamada & T. Ohba 7960 (KPM); *ibid.*, T. Ohba 4275 (KPM); *ibid.*, K. Kohno 990021 (TUS); Nobe, Tatebayashi-shi, K. Kohno 990047 (TUS); Itakura-numa, Itakura-machi, Ora-gun, T. Hiroi 599976 (TNS). Saitama: Kodaihasuno-sato, Kobari, Gyoda-shi, K. Kohno 990058 (TUS); Tsuchibe, Kitakawabe-machi, Kitasaitama-gun, A. Ozaki 73249 (KPM). Chiba: Namegawa, Shimofusamachi, Katori-gun, A. Ozaki 73262 (KPM). Tokyo: Koaitame, Mizumoto, Katsushika-ku, K. Komatsuzaki 162444 (TNS). Kanagawa: Noborito, Tama-ku, Kawasaki-shi, T. Ohba 7077 (KPM); Saedo, Midoriku, Yokohama-shi, A. Ozaki & Y. Kitagawa 102851 (KPM); Ushikubo, Kouhoku-ku, Yokohama-shi, A. Ozaki 76796 (KPM).

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### References

- Egorova T. V. 1999. Cyperaceae. In: Fedorov A. A. (ed.), Flora of Russia 2: 102–304. A. A. Balkema, Rotterdam. (Translation of Flora Everopeiskoi Chasti SSSR, tom II. Nauka Publishers, Leningrad, 1976, in Russian).
- Ishizawa S. and Sasagawa M. 1996. Kamitani-chiiki no shushi-shokubutu. In: Kamitani-chiiki-gakujyutusuôgô-chôsdan (ed.), Kamitani, Shizen-hen: 177–248. Kamikawa-mura (in Japanese).
- Koyama T. 1958. Taxonomic Study of the Genus *Scirpus* Linne. J. Fac. Sci. Univ. Tokyo, sect. 3, 7: 271–366.
- 1978. Cyperaceae. In: Li H. & al. (eds.), Flora of Taiwan 5: 191–372.

河野和博, 五百川 裕, 大悟法 滋: 日本産ヒメカンガレイの1新変種と1新組み合わせ

カヤツリグサ科フトイ属のヒメカンガレイ (*Schoenoplectus mucronatus* (L.) Palla) の新変種ロツカクイ (var. *ishizawae*) を記載した。この変種の花序, 花および果実の特徴はヒメカンガレイと一致するが, 稈の稜に明らかな翼を持つ点で異なる。やはり稈に明らかな翼を持つ点でヒメカンガレイの変種として区別されるタタラカンガレイ (var. *tataranus*) とは, 翼の形および刺針の長さで異なる。すなわち, ロツカクイの3つの翼は先端が幅

広く, 中央はやや窪んで両縁が顕著な稜となるため, 稈に6本の稜が存在し, 刺針は果実よりやや短いと同長であるのに対して, タタラカンガレイの翼の先端は狭い載形でしかなく, 刺針は果実より明らかに長い。なお, タタラカンガレイをフトイ属とした学名は, これまで正式に発表されていなかったもので, 本論文でアブラガヤ属 (*Scirpus* L.) からフトイ属への組み替えを行った。

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